

TWO NEW SPECIES OF THE GENUS *WHITFIELDIELLUS* (HYMENOPTERA: BRACONIDAE) FROM BRAZIL¹

S.M. Barbalho², A. M. Penteado-Dias³

ABSTRACT: Two new species of the genus *Whitfieldiellus*, *W. nigricephalus* and *W. xanthellus*, are described from Brazil.

The subfamily Doryctinae belongs to the cyclostome Braconidae (Ichneumonidea) with a circular oral opening and concave clypeus. It is characterized by the presence of a row of short spines on the fore tibia, a flange at the apico-lateral edges of the propleuron the dorsal valve of the ovipositor with a double node at the apex and a basal tubercle on the hind coxae in some genera. The Doryctinae is one of the largest subfamilies with more than 140 genera distributed worldwide. The genus *Whitfieldiellus* contains large and colorful species with distinctive notched scape and hind wing venation with vein m-cu recurved.

This is a contribution to a long term study of the subfamily for Brazil. Examining accumulated material in collections we have found two new species in that genus.

Key to species of the genus *Whitfieldiellus*:

- 1- Oral opening large, diameter twice length of malar space; wings with two infusate bands; hind wing with vein r-m 2/3 length of 1-M *W. variegatus* (Marsh, 1993)
Oral opening shorter, diameter about equal to malar space; wings entirely hyaline or with only one infusate band at apex (Figures 1, 2) 2.
- 2- Mesoscutum and vertex smooth and shining (Figure 3); notauli smooth (Figure 3); propodeum as in Figure 5 *W. nigricephalus* n. sp.
Mesoscutum strigate (Figure 4); notauli scrobiculate (Figure 4); propodeum as in Figure 6 *W. xanthellus* n. sp.

Genus *Whitfieldiellus* Marsh

Whitfieldia Marsh, 1993. Preoccupied by *Whitfieldia* Davidson 1882.

Whitfieldiellus Marsh 1997. New name for *Whitfieldia* Marsh 1993.

Type species. *Whitfieldia variegata* Marsh.

¹ Received March 29, 2000. Accepted April 24, 2000.

² Faculdade de Medicina, Universidade de Marília. Av. Higino Muzzi Filho, 1001, Marília, SP, Brasil.

³ Departamento de Ecologia e Biologia Evolutiva, Universidade Federal de São Carlos, CP 676, CEP 13 565-905, São Carlos, SP, Brasil.

Redescription. Body length, 10.0-12.0 mm; oral opening variable; eye large; apical rim of scape notched on outer side (fig. 1); occipital carina not meeting hypostomal carina; mesonotum declivous anteriorly; notauli indicated by smooth or scrobiculate grooves; sternaulus forming a shallow smooth line; propodeum variable; first metasomal tergum longer than apical width, raised median area lined by distinct lateral carinae; second metasomal tergum with median area at base margined laterally by distinct carinae; ovipositor longer than metasoma; hind coxa with basal tooth; fore tibia with scattered row of chaetobothria; fore wing with r-m present, vein 1cu-a variable; cell 2CU variable, vein 2cu-a absent or represented by fuscous spot; hind wing with vein M+CU and vein r-m length variable, vein M+CU equal to 1-M, vein m-cu curved at apex toward wing tip.

Distribution. Occurs in Mexico, Central America and Brazil.

Comments. The notched scape and the recurved m-cu are distinctive for this genus.

Whitfieldiellus nigricephalus, NEW SPECIES

(Figs 1, 2, 4, 6)

Holotype, female. Head with occipital carina present, but not meeting hypostomal one; face areolate-rugose; vertex, frons and temples smooth; face height slightly longer than eye height; face width 1.6 times longer than eye width; oral opening half of eye height; eye width 2 times temple width; malar space equal to oral opening; scape with expanded flap on apical anterior edge (fig. 1).

Mesosoma (figs 4, 6) completely smooth and shining except for carinae; mesonotum declivous anteriorly; mesoscutum midlobe more elevated than sidelobes; notauli smooth and running parallel to the scutellum (Figure 4); sternaulus only a slightly smooth mark; propodeum with a smooth pentagonal cell (Figure 6); fore tibia with a row of many long chaetobothria; hind coxae with a very short basal tubercle.

Fore wing (fig. 2) with vein m-cu joining 2-M before 2-RS; r-m vein present; first subdiscal cell open at apex; M+CU not sinuate; 1 cu-a reaching vein 1CU beyond M; 2cu-a absent at apex; second submarginal cell short; 3RSa vein shorter than r vein; apical third infuscated. Hind wing (fig. 2) with M+CU equal in length to 1-M; r-m about 1/3 of 1M.

Metasoma with T1 1.5 times longer than apical width; T1 slightly strigate and with dorsal carina extending to apex; T2 strigate and with two converging carinae; T3 smooth and with a shallow groove enclosing circular area at base; remaining terga smooth and shining; ovipositor longer than body.

Body yellow, except for head, antenna, apex of mandibles, apex of metasoma, ovipositor sheaths, hind legs (except apex of tibia) and last tarsal segment of fore and mid legs black; fore wing hyaline and apex infuscated, hind wing hyaline, stigma and veins yellow.

Body length: 10mm.

Distribution. Barra do Tapirapé, MT, Brasil

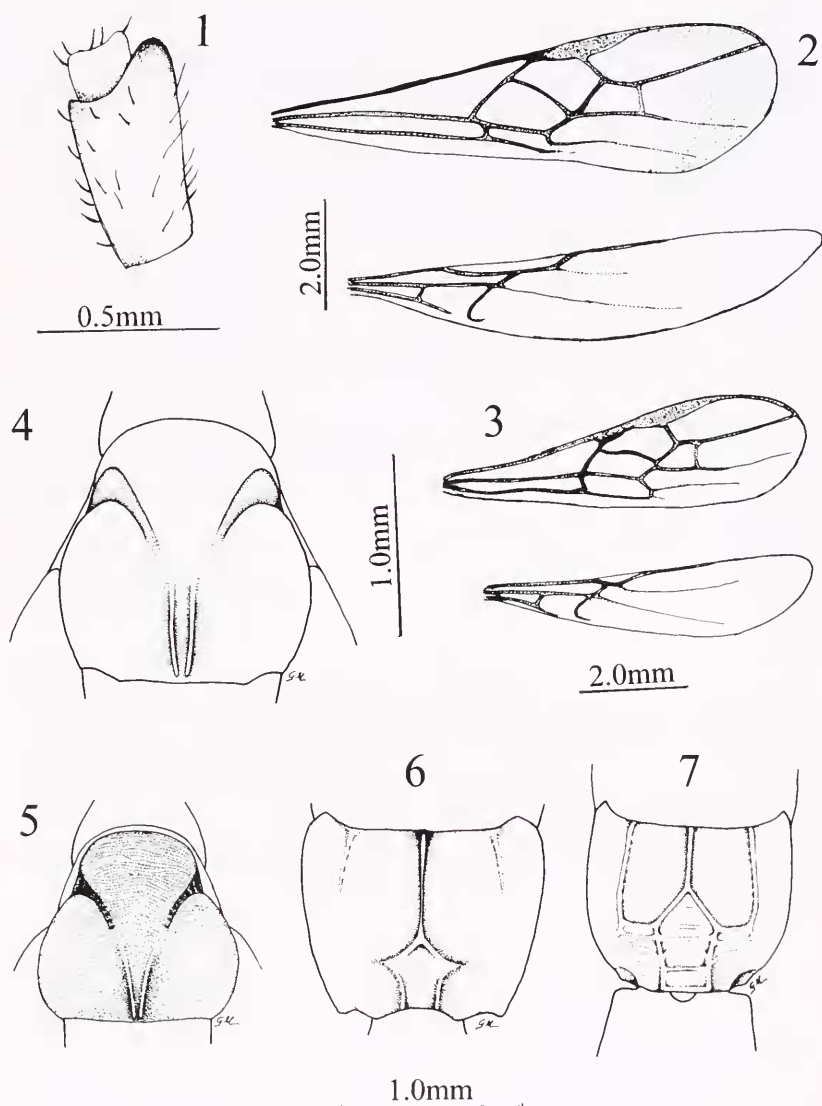
Specimen examined. Barra do Tapirapé, MT, Brasil, November, 1964; B. Malkin, col. Deposited in DCBU (Universidade Federal de São Carlos, Departamento de Ecologia e Biologia Evolutiva).

Etymology. The name of the species refers to its head color.

Whitfieldiellus xanthellus, NEW SPECIES

(Figs. 3, 5, 7)

Holotype, female. Agrees with the description of *W. nigricephalus*, n. sp. except as follows: vertex and mesoscutum strigate (fig. 5); notauli scrobiculate (fig. 5); propodeum with strigate



Whitfieldiellus nigricephalus n. sp. 1. scape; 2. wings; 4. mesoscutum; 6. propodeum.

Whitfieldiellus xanthellus n. sp. 3. wings; 5. mesoscutum; 7. propodeum.

cell (fig. 7); all terga of metasoma strigate; first subdiscal cell closed at apex; 1cu-a interstitial to 1M; body and legs yellow, except antennae, apex of mandibles, last tarsal segments of fore and mid legs, black; apex of hind tibiae and hind tarsal segments infuscated; apex of ovipositor and its sheaths infuscated; wings hyaline (fig. 3); stigma brown.

Distribution. Paranapebas, Serra Norte, PA, Brasil.

Specimen examined. Paranapebas, Serra Norte, PA, November, 1985. Deposited in DCBU (Universidade Federal de São Carlos, Departamento de Ecologia e Biologia Evolutiva).

Etymology. The name of the species refers to its yellowish color.

ACKNOWLEDGMENTS

Thanks to Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) and Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), for financial support. Also to Paul M. Marsh and Robert A. Wharton for comments and suggestions to the manuscript.

LITERATURE CITED

- Marsh, P. M.** 1993. Description of New Western Hemisphere Genera of the Subfamily Doryctinae (Hymenoptera: Braconidae). *Contrib. Amer. Entomol. Inst.* 28 (1): 1-58.
- Marsh, P. M.** 1997. Replacement names for Western Hemisphere Genera of Doryctinae (Hymenoptera: Braconidae). *Proceed. Entomol. Soc. Wash.*, 99 (3): 586.
-

BOOKS RECEIVED AND BRIEFLY NOTED

PARASITOID POPULATION BIOLOGY. M.E. Hochberg & A.R. Vies, editors. 2000. Princeton University Press, Princeton, NJ 08540. 366 pp. Cloth \$75.00; Paper \$24.25.

Presentations by seventeen international specialists on the subject of insect parasitoids and the diversity in their life styles. After a general introduction, the book treats the subject in three main sections: population dynamics, population diversity, and population applications, including their value as agents in biological control.

INSECT PREDATOR-PREY DYNAMICS. LADYBIRD BEETLES AND BIOLOGICAL CONTROL. A.F.G. Dixon. 2000. Cambridge University Press. 257 pp. Hardcover \$74.95.

This volume explores the basic biology of ladybird beetles, their association with their prey, and its effect on development rate and body size. Optimal foraging theory, field observations, and laboratory experiments are used to illustrate how ladybird larvae maximize their rate of energy intake, and ladybird adults their fitness. The interdependence of these life history parameters is then used to develop a simple predator-prey model.